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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/830,016	04/20/2001	Yukihiro Kiuchi	NE+99P237A	9360

466 7590 05/29/2003

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EXAMINER

SELLERS, ROBERT E

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 05/29/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/830,016

Applicant(s)

KIUCHI ET AL.

Examiner

Robert Sellers

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 14-43 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 1712

Claims 1-13 have been replaced by new claims 14-43 presented in the amendment filed May 22, 2003. The claims contain two different weight ranges of inorganic filler (C) and various combinations of particular species of epoxy resin (A) and phenolic resin (B) not previously defined. Accordingly, the following holding of lack of unity is applied.

This application contains the following groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

Group I, claims 14-25 and 38, drawn to an epoxy resin composition and semiconductor device encapsulated therewith (claim 38) wherein the amount of inorganic filler (C) is from 30-60% by weight (independent claim 14, lines 10-13).

Group II, claims 26-37, drawn to an epoxy resin composition wherein the content of inorganic filler (C) is from 60-95% by weight (independent claim 26, lines 11-14; independent claim 30, lines 10-13 and independent claim 34, lines 10-13).

Group III, claims 39-43, drawn to an epoxy resin composition wherein the proportion of inorganic filler (C) is arrived at by increasing the filler level from 30-60% by weight to 60-95% by weight.

Art Unit: 1712

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical feature. The special technical feature is the combination of an epoxy resin embracing the species of formulae (1) to (8) on pages 25-27 of the specification with a phenolic resin encompassing the species of formula (9) to (13) on pages 27-29 and an inorganic filler without a flame retardant. Shimizu et al., Japanese Patent Nos. 8-253555, 10-182941 or 9-208808 ; Tokunaga et al., Takami et al., Enami et al. or Japanese Patent No. 8-301984 shows the claimed blend of epoxy resin, phenolic resin and inorganic filler without a flame retardant as explained on pages 2-6 of the Office action mailed May 22, 2003 (Paper No. 8). Accordingly, the special technical feature does not make a contribution over the prior art.

This application contains claims directed to more than one species of the generic invention. These species are deemed to lack unity of invention because they are not so linked as to form a single general inventive concept under PCT Rule 13.1.

The species are:

- 1) The mixture of epoxy resins of formula (4) and phenolic resin of formula (10) of claim 20 or 33.
- 2) The epoxy resin of formula (3) and phenolic resin of formula (10) of claim 21 or 29.
- 3) The epoxy resin of formula (1) and phenolic resin of formula (9) of claim 22.

Art Unit: 1712

4) The epoxy resin of formula (2) and phenolic resin of formula (10) of claim 23.

5) The mixture of epoxy resins of formulae (2) and (3) with a phenolic resin of formula (10) of claim 24 or 37.

6) The mixture of epoxy resin of formula (8) and phenolic resin of formula (13) of claim 25.

Claims 14-19, 26-28, 30-32, 34-36 and 38 are generic.

The species listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, the species lack the same or corresponding special technical features for the reasons espoused with respect to the holding of lack of unity of the groups of inventions advanced hereinabove.

The reply to this requirement to be complete must include an election of the invention and species to be examined even though the requirement be traversed (37 CFR 1.143). Upon the cancellation of claims to non-elected inventions, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 1712

The following objections are noted:

1) The term "type" used to characterize the species of tetraphenylethane and bisphenol A (claim 25) epoxy resins in claims 18, 21, 24-26, 29, 34 and 37 does not concisely denote the formulae since such a term encompasses modifications and derivatives not contemplated.

2) Claims 18, 26 and 34 denote "an epoxy resin of the tetraphenylethane type including one or more aromatic moieties, to which three or four epoxy groups are bonded." According to formula (3) on page 25 of the specification and claims 21, 24, 29 and 37, a tetraphenylethane epoxy resin contains exactly four aromatic moieties and exactly four epoxy groups. The epoxy resin would be more clearly indicated as "a tetraphenylethane epoxy resin including four aromatic moieties and four epoxy groups."

3) Claim 38 is dependent upon cancelled claim 1.

4) There is no support anywhere in the specification for claims 39-43 requiring the addition of a further amount of inorganic filler (C) to the epoxy resin composition "having an inorganic filler (C) content of 30 wt% to 60 wt% as to increase the inorganic filler (C) content thereafter up to said W (wt%) selected in range of $60 < W \leq 95$."

Page 6, lines 9-10; page 7, lines 18-19; page 12, lines 21-23 and page 13, lines 7-8 and 14-15 only substantiate the individual ranges of $30 \leq W < 60$, or $60 \leq W \leq 95$ and not the increase of the range of $30 \leq W < 60$ to $60 \leq W \leq 95$. Furthermore, the upper limit of the range of $30 \leq W < 60$ of "< 60" does not support the broader value of " ≤ 60 " recited in claims 14 and 15 [emphasis added].

Art Unit: 1712

The translation of Japanese priority application no. 10-299606 filed May 22, 2003 (Paper No. 7) establishes the filing date of October 21, 1998 which antedates the publication date of November 9, 1998 for European Patent No. 915,118 which removes it from the 35 U.S.C. 102(b)/103(a) rejection.

The remarks provided on pages 23-41 of the amendment filed May 22, 2003 (Paper No. 6) will be addressed once elections of the invention and species are filed and it is determined which of the references are applicable to the elected claims.

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Robert Sellers
Primary Examiner
Art Unit 1712

rs
5/28/03